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PRONEPHRIUM CUSPIDATUM (BL.) HOLTT. — NEW TO INDIA FROM NICOBAR ISLANDS WITH NOTES ON CONFUSED RELATED TAXA

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ABSTRACT

Pronephrium cuspidatum (Bl.) Holtt. originally known from Malesia has been actually reported for the first time from Nicobar Islands, India and the Indian material earlier known as *Meniscium cuspidatum* Bl. represented *Pronephrium nudatum* (Roxb. ex Griff.) Holtt. and *P. lakhimpurensis* (Rosenst.) Holtt. from North-Eastern Himalayas. The current nomenclature and illustrations for the present species with key to the taxa earlier confused in Indian literature have been provided.

During the course of revisionary studies of the genus *Pronephrium* Presl belonging to the family Thelypteridaceae (Presl) Pic.—Ser. in India the authors came across a peculiar specimen collected from South Nicobar Islands which on scrutiny with the literature mainly of Holttum (1972 ; 1981) alongwith Type photographs and protologues of the present and related taxa turned out to be *Pronephrium cuspidatum* (Bl.) Holtt. at present known from Malesia, Solomon Islands, Ryuku Islands and Taiwan (cf. Holttum *l.c.*). The present species can be easily distinguished from the rest of the species of *Pronephrium* Presl by presence of proliferating buds in the axils of upper pinnae, adnate and obliquely-cuneate base. It is interesting to note that this taxon has been earlier wrongly reported from North India due to confusion regarding its correct identity in Indian literature and is therefore partly known by various names. On critical scrutiny of the literature and type photographs etc., it is concluded that *Meniscium cuspidatum* var. *longifrons* Clarke (1880) represents *Pronephrium nudatum* (Roxb. ex Griff.) Holtt. *Dryopteris rubra* Ching (1931) *Abcopteris rubra* (Ching) Ching (1938) represents *Pronephrium lakhimpurensis* (Rosenst.) Holtt. whereas *Meniscium cuspidatum sensu* Bedd. (1869, 1883) represents *Pronephrium nudatum* (Roxb. ex Griff.) Holtt. which is one of the variable species inter-linked with several intermediate forms. In the meantime several new combinations have been made in addition to the above. viz. : *Abcopteris cuspidata* (Bl.) Ching (1938), *Cyclosorus cuspidatus* (Bl.) Copel. (1947), *Thelypteris cuspidatus* (Bl.) K. Iwats. (1965) but special mention is to be made about *Abcopteris cuspidatus* of Ching (*l.c.*) which has been mentioned as synonymous to *Pronephrium cuspidatum* (Bl.) Holtt. by Holttum (*l.c.*) overlooking the remarks of Ching (1938 p. 245) that "the Asian specimens are not with proliferous leaves, narrower pinnae, uniseriate sori and more oblique cross veins at least in fertile pinnae." The statement clearly indicates that the absence of axillary proliferous buds from Asian specimens represents *Pronephrium nudatum* (Roxb. ex Griff.) Holtt.

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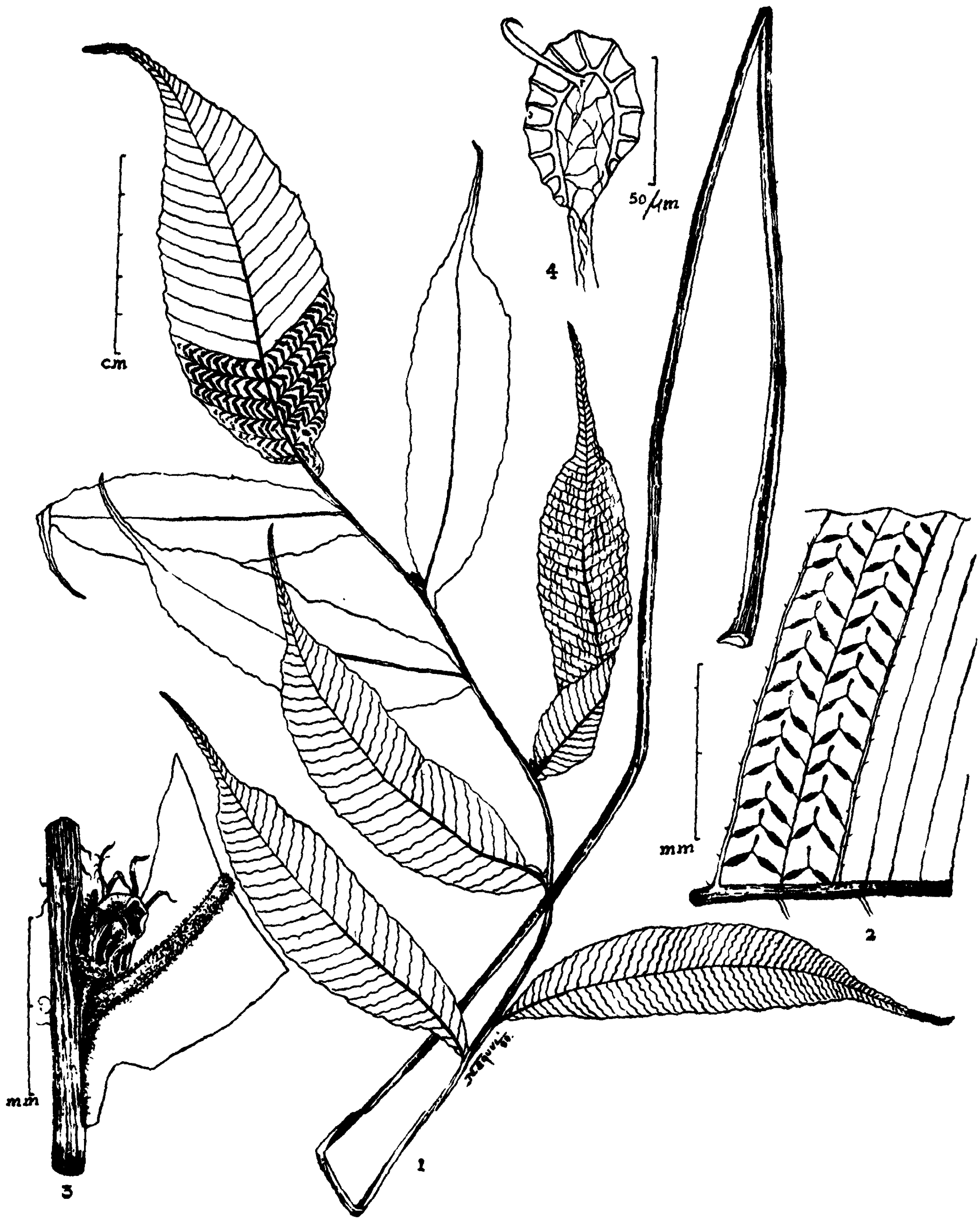

Figs. 1-4 : *Pronephrium cuspidatum* (Bl.) Holtt. 1. Habit. 2. Part of soriferous pinna showing venation pattern. 3. Proliferating axillary bud from the axil of a pinna. 4. Sporangium with hooked hair.

Recently Dixit and Kala (1987) added *Pronephrium simplex* (Hook.) Holtt. from the Indian region as well as confirmed the occurrence of *P. asperum* (Presl) Holtt. The report of *Pronephrium cuspidatum* (Bl.) Holtt. is now really the addition to the Indian flora from the Nicobar Islands although the species was earlier reported by Beddome (1869; 1883) from North India (Khasia & Jaintea Hills and Sikkim). Infact, the Indian specimens from mainland represented either *Pronephrium nudatum* (Roxb. ex Griff.) Holtt. or *P. lakhimpurensis* (Rosenst.) Holtt. The current nomenclature, detailed description, illustrations and habitat data noted on the herbarium sheet by the Collector alongwith key to confused related taxa are being provided for easy identification in the field and herbarium.

Key

1a. Hooked hairs present on rhizome and other parts of the plants ; proliferating buds present in the axils of the upper pinnae .. *P. cuspidatum*
1b. Hooked hairs absent ; proliferating buds not present in the axils of pinnae:
  2a. Pinnae margins smooth to undulate, usually drying reddish ; sori exindusiate .. *P. lakhimpurensis*
  2b. Pinnae margins sharply crenate-serrate, not drying reddish ; sori indusiate .. *P. nudatum*

Pronephrium cuspidatum (Bl.) Holtt. in Blumea 20 : 123. 1972. *excl. syn. praeter* Bl.; Fl. Malesiana ser. II. 1 (5) : 536. 1981. *Meniscium cuspidatum* Bl., Enum. Pl. Jav. 114. 1828; Bedd., Handb. Ferns Brit. India 400. 1883 (*pro parte*, excl. t. 234). *Dryopteris cuspidata* (Bl.) Christ in Phillip. Journ. Sci. 2 : 205. 1907 (*pro parte*). *Abcopteris cuspidata* (Bl.) Ching in Bull. Fan Mem. Inst. Biol. Bot. 8 (4) : 245. 1938 (*pro parte*) *Cyclosorus cuspidatus* (Bl.) Copel.; Gen. Fil. 142, 1947. *Thelypteris cuspidatus* (Bl.) K. Iwats. in Mem. Coll. Sci. Univ. Kyoto B 31 : 192. 1965.

Rhizome not present, according to Holttum (1981) short-creeping, 7-10 mm in diameter bearing scales and hooked hairs. Fronds pinnate; stipes upto 55 cm long blackish at the base bearing a few scales and hairs rest above stramineous and glabrous; lamina 27-30 × 15-20 cm drying reddish in colour; pinnae 4-5 pairs, more or less alike, dimorphous, fertile ones smaller than the sterile ones, oblong-lanceolate, adnate and obliquely-cuneate at base, acuminate-cuspidate at apex, acumen 2.5-3.0 cm long, proliferating buds present in the axils of the upper pinnae, membranaceous but firm in texture; fertile pinnae 10.0-12.0 × 2.5-4.0 cm, costa raised on the lower surface, costules 3.5 to 4.0 mm apart; veins 7-12 pairs, anastomosing, excurrent veins free, ending into hydathodes, more distinctly seen on the upper surface; lower surface with sparse hooked hairs, upper surface glabrous. Sori near costules, elongate, rarely confluent at age, sporangia with hooked hairs.

Specimen examined : India—South Nicobars, Great Nicobar Islands : Laful forest, 6.5.1980, *D. K. Hore* 7772 (PBL).

Ecology : Plants growing in dense evergreen forest ; adventitious buds arise from the axils of pinnae ; sparse in distribution.

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